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PEAT DISCOVERY IN SENEGAL MAY HELP SOLVE THE COUNTRY'S ENERGY PROBLEMS

by Amadou Pame

SENEGAL, IDRC -- Major programs for the development and exploitation of peat are now under way in Senegal. Spontaneous brush fires gave the signal: contrary to all expectations, peat does exist in hot countries.

The discovery is very recent (1981) and the government of Senegal was quick to adopt a policy for the development of its peat resources. Large quantities, more than 40 million cubic metres, have been found already in the region of the Niayes, a chain of hills to the north of Dakar, the capital. This would be enough to cut in half the consumption of imported heavy fuel used for the production of electricity, and at the same time reduce the country's balance of payments deficit. It has been estimated that the peat in the Niayes region could supply a 60-megawatt thermal power station for 30 years.

For three months teams of technicians have also been busy probing and exploring the banks of the Saloum River. For here there are indicators of major mangrove-type peat deposits. The peat would be in lagoons, estuaries or deltas in three zones of more than 1500 square kilometres each: the Senegal delta in the north, the Sine-Saloum and the Casamance in the south.

The Compagnie des tourbières du Sénégal (CTS) has been attempting to confirm these deposits, with an eye to putting them to good use. It has obtained a grant for this from the International Development Research Centre under the Centre's Cooperative Programs. The main purpose of this grant of 167 million francs CFA ($564 000 CAN) is to produce an inventory of zones with a

potential for peat mining. It will make it possible to identify deposits, analyze the quality of the peat in laboratory studies, and propose optimal uses of the product.

A Canadian engineering company, Cartier-Monenco, is working with CTS on the exploration, most of which they hope to complete before the end of 1983. To do this, the engineers have made use of the most modern techniques, including remote sensing by satellite. This method makes it possible to obtain images which, when enhanced by computer, become multicolored cartographic documents. If everything goes right, the colours, which represent the various characteristics of the terrain, will enable experts to detect deposits of peat or at least the areas most likely to contain sizable deposits.

Researchers are now attempting to correlate the colours shown by the satellite maps with the samples taken on the ground.

If the research project in the Siné-Saloum and Casamance region reveals significant quantities of peat, they would be exploited without delay. There are three uses for the peat. First, in industry. The extracted peat can be used directly to fire boilers for the production of electricity. Researchers are now attempting to determine the best combustion methods for Senegalese peat, the reduced water content of which differentiates it from types found in northern countries.

Another major use for peat is in domestic energy. This could go a long way to helping conserve the forests of Senegal. At the moment, 60 percent of the energy consumed in Senegal comes from the forests that are diminishing from year to year.

The domestic aspect of this project offers interesting prospects. Peat has a higher calorific value than wood, the principal fuel in rural areas. Peat could make an important contribution to the energy resources of households, especially as a cooking fuel. Studies on domestic uses are already under way as part of the Niayes peat project.

Finally, peat can be used as a fertilizer for farmland. Such use in agriculture could contribute considerably to slowing down soil degradation in the country. Indeed, peat is a veritable trap for mineral elements. Sulphur, manganese and uranium, which enrich the soil, are often found in it. Peat can also be used as a fertilizer in its natural state. It is simply reduced to powder and spread in the fields. Farmers can also use its ashes, thus deriving double benefit from peat as fuel and as fertilizer.

The peat discovered in this area of the world is considered by scientists to be a new material. The climatic conditions under which it was formed (alternating dry and humid periods but consistently hot) and the plants that compose it (mangrove vegetation) give it particular characteristics. Extraction techniques will have to be adapted to this new material.

While in temperate zones drying the peat is a problem, in Senegal, at least during nine months of the year, it will be necessary to prevent it from drying too quickly.

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